

ABSTRACT OF THE DISCLOSURE

A cyclic equation setting unit transforms and sets a Taylor series equation for calculating a sine function into a single cyclic equation common to terms of the Taylor series equation, the single cyclic equation having a new known number Q that is defined by multiplying a known number Q and the square of a variable X , shifting the result by a shift number S and then adding a constant K thereto. An adjustment unit adjusts and prepares the shift number S such that within a variation range of the variable X the variable X has a maximum value 1 with the constant K being not greater than 1. A cyclic equation executing unit inputs and converts angle information i to the variable X , and executing the cyclic equation in sequence from higher order term to lower order term for the number of terms of the Taylor series equation to derive a sine function of the angle information i .